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PTO/SB/21 (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/887,933
Filing Date	June 22, 2001
First Named Inventor	Robert P. HOF
Art Unit	1621
Examiner Name	S. Kumar
Attorney Docket Number	246152014800

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Total Number of Pages in This Submission

28

ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form + duplicate for Fee Processing (2 pages)	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) (8 pages, in triplicate, 24 pages total)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
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Remarks

Customer No. 25225

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	MORRISON & FOERSTER LLP James J. Mullen, III, Ph.D. - 44,957
Signature	
Date	December 18, 2003

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Dated: 12-18-03

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)
620.00

Complete if Known

Application Number 09/887,933
Filing Date June 22, 2001
First Named Inventor Robert P. HOF
Examiner Name S. Kumar
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Deposit Account Number

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Morrison & Foerster LLP

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims -20** = x =
Independent Claims -3** = x =
Multiple Dependent =

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330.00
1403	290	2403	145	Request for oral hearing	290.00
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 620.00

SUBMITTED BY

Name (Print/Type) James J. Mullen, III, Ph.D.

Registration No. (Attorney/Agent)

44,957

(Complete if applicable)

Telephone (858) 720-7940

Signature

Date

December 18, 2003

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REQUEST FOR ORAL HEARING BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES		Docket No. (Optional) 246152014800	
In re Application of Robert P. HOF, et al.			
Application Number 09/887,933		Filed June 22, 2001	
For PROCESS FOR RACEMISING AN ENANTIOMER-ENRICHED SCHIFF BASE OF AN AMINO ACID AMIDE			
Art Unit 1621		Examiner S. Kumar	
<p>Applicant hereby requests an oral hearing before the Board of Patent Appeals and Interferences from in the appeal of the above-identified application.</p> <p>The fee for this Request for Oral Hearing is (37 CFR 1.17(d)) \$ <u>290.00</u></p> <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: \$ _____</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account. I have enclosed a duplicate copy of this sheet.</p> <p><input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. <u>03-1952</u>. I have enclosed a duplicate copy of this sheet. A Fee Transmittal Form is attached to this submission in duplicate.</p> <p><input type="checkbox"/> A petition for an extension of time under 37 CFR 1.136(b) (PTO/SB/23) is enclosed. For extensions of time in reexamination proceedings, see 37 CFR 1.550.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).</p> <p><input type="checkbox"/> attorney or agent of record. Registration number _____</p> <p><input checked="" type="checkbox"/> attorney or agent under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a). <u>44,957</u></p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.</p>			

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Dated: <u>12-18-03</u>	Signature: <u>[Signature]</u> (Michael Boyd)

SD-176759

12/24/2003 AWONDAF1 00000047 031952 09887933

02 FC:1403 290.00 DA



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Signature: *[Signature]*

(Michael Boyd)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In the application of:

Robert P. HOF et al.

Serial No.: 09/887,933

Filing Date: June 22, 2001

For: PROCESS FOR RACEMISING AN
ENANTIOMER-ENRICHED SCHIFF
BASE OF AN AMINO ACID AMIDE

Examiner: S. Kumar

Group Art Unit: 1621

REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants file this Reply Brief to Examiner's Answer pursuant to the provisions of 37 C.F.R. § 1.193 in connection with the above-identified application. The Examiner's Answer was mailed on October 20, 2003, according to 37 CFR § 1.193, a Reply Brief must be filed within two months from the mailing of the Examiner's Answer, December 20, 2003. As such, this Reply Brief is timely filed. Herewith, Appellants submit an original and two copies of this reply Brief.

12/24/2003 #WONDAF1 00000047 031952 09887933

01 FC:1402 330.00 DA

The Examiner has not made out a *prima facie* case of obviousness

To establish a *prima facie* case of obviousness, the Examiner must, *inter alia*, articulate a proper motivation to modify the cited reference to achieve the claimed invention. See *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339 (Fed. Cir. 2003). The pending claims are directed to a process for racemising an enantiomer-enriched Schiff base of an amino acid primary amide. The claimed invention is based on the discovery that Schiff bases of aliphatic amino acid primary amides that cannot be racemized or can be racemized only very slowly can be racemized relatively quickly using the claimed process (*see e.g.*, specification, page 1, lines 23-31). The Examiner alleges that Claims 12-22 of the above-referenced case are obvious in view of Hijiya *et al.* (U.S. Patent No. 5,679,857), which teaches a process of racemising a Schiff base of an amino acid secondary amide. Because the Examiner has failed to articulate a proper motivation to modify the cited reference to achieve the claimed invention, the Examiner has failed to make a *prima facie* case of obviousness. As such, the rejection of the pending claims under 35 U.S.C. § 103(a) is in error and warrants reversal by the Board.

The Examiner has not articulated a proper motivation to modify Hijiya *et al.*

The Examiner alleges that there is motivation to modify the teachings of Hijiya *et al.* to achieve the claimed invention. Specifically, the Examiner reasons in the Answer that the pending claims and the cited reference teaches an analogous processes and that Hijiya *et al.* discusses a chiral center. According to the Examiner because of these similarities, there is motivation to racemize a primary amide even though the cited reference only teaches racemization of a secondary amide (Examiner's Answer, page 5, first paragraph).

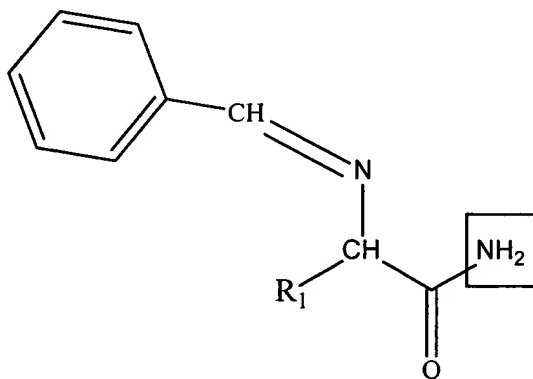
The proffered motivation fails to provide the required motivation to modify the teachings of Hijiya *et al.* to achieve the claimed invention. Hijiya *et al.* teach a method of preparing D-amino acid-N-(S)- α -alkylbenzylamides, which are secondary amides, not primary amides (Hijiya *et al.*, formula 2, col. 2, lines 6-29). At a minimum, one of ordinary skill in the art would have to modify the teachings of Hijiya *et al.* for use with a primary amide to achieve the claimed invention. The teachings of Hijiya *et al.*, however, are completely silent with respect to the suitability of their method for use with primary amides. Because the cited reference fails to

provide any motivation or even a suggestion to modify its teachings for use with a primary amide, the Examiner has failed to articulate a proper motivation in support of the *prima facie* case of obviousness. As such, the rejection is in error.

Not all amides are created equal

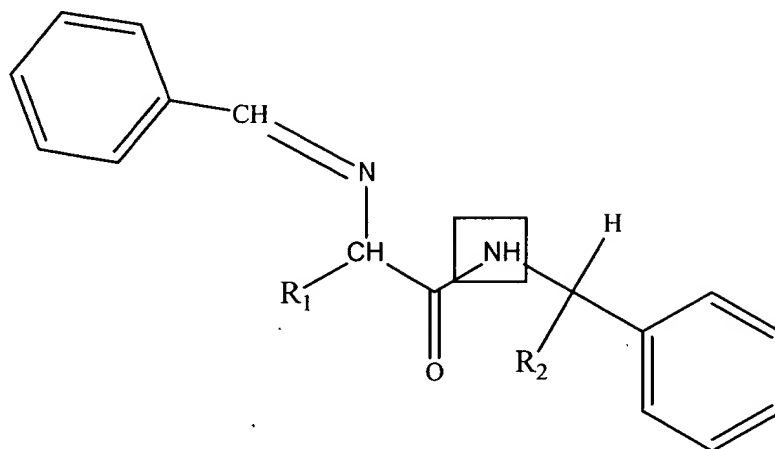
The Examiner further alleges in the Answer that because Hijiya *et al.* teach the modification of one type of amide that all types of amides are suggested for use with the cited method. There are three types of amides, primary, secondary and tertiary. The Examiner's characterization of the cited reference assumes that all amides are so equivalent that teachings relating to one type of amides (primary amides) apply to all amides (secondary and tertiary amides). According to the Examiner, "selection of three species from one genus is well within the ordinary skill in the art for the process, without undue experimentation, especially when there is a chiral center present." (Examiner's Answer brief, page 5, first paragraph.)

Contrary to the Examiner's assertion, all amides are not equivalent. An examination of the amides in question readily illustrates this point. A primary amide to be racemized by the claimed invention is illustrated by the formula:



R1 is the side chain for the amino acid.

The secondary amide discussed in Hijiya *et al.* is illustrated by the formula:



R₁ is the side chain for the amino acid and R₂ is disclosed by Hijiya *et al.* as being a methyl or ethyl group.

The structural differences between these two classes of compounds are manifest. For example, instead of only hydrogen atoms appending the carboxy-terminal nitrogen (emphasized), the secondary amides taught by Hijiya *et al.* have a large alkylbenzyl group at this position. This large group would reasonably be expected by one of ordinary skill in the art to alter the reactivity of the compound upon which it has been appended. Because one of ordinary skill in the art would reasonably expect that the reactivity of the compounds disclosed by Hijiya *et al.* to differ from those disclosed for use in the claimed invention, the Examiner's allegation that all amides are equivalent is patently in error. As such, the Examiner has not articulated a motivation to select from a small group of amide species but instead has articulated an invitation to experiment with the cited teachings in an attempt to achieve the claimed invention. Accordingly, rather than a proper *prima facie* case of obviousness, the Examiner has offered an "obvious to try" rejection.

The Examiner has at best articulated a motivation to "try"

In the absence of a clear and identifiable motivation to modify the cited reference, the Examiner has, at best, offered an "obvious to try" argument to support the obviousness rejection. The Examiner is suggesting in the Answer that it would have been obvious for one of ordinary skill in the art to try to achieve the claimed invention using the teachings of Hijiya *et al.* because

the cited reference is concerned with amino acid chirality and there are only a few species with which to experiment. As the Federal Circuit recognized:

"The admonition that 'obvious to try' is not the standard under § 103 has been directed mainly at two kinds of error. In some cases, what would have been 'obvious to try' would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful In others, what was 'obvious to try' was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it." In re O'Farrell, 853 F.2d, 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Hijiya *et al.* provides no guidance whatsoever regarding how to modify its teachings for use with a primary amide. On the contrary, the teachings of Hijiya *et al.* are directed solely to preparing D-amino acid-N-(S)- α -alkylbenzylamides, which are secondary amides. Because the Examiner has failed to identify the requisite motivation to support the obviousness rejection of the pending claims, the present rejection should be withdrawn.

Just because a claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness

A statement that a modification of the prior art to meet the claimed invention would have been within the ordinary skill of the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to modify the teachings of the references. See *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000). The Examiner's allegation that it would have been within the capabilities of an ordinarily skilled artisan to modify the teachings of Hijiya *et al.* is not sufficient to satisfy the burden on the Examiner to identify such a motivation. As discussed above, what is required to support a *prima facie* case of obviousness is an explicit or implicit motivation to modify a cited reference to achieve the claimed invention. Because the Examiner has failed to identify a proper motivation to modify the teachings of Hijiya *et al.*, no *prima facie* case of obviousness has been made.

The modifications proposed by the Examiner would render the teachings of Hijiya *et al.* unsuitable for their intended purpose

There is no motivation to modify the prior art if the proposed modification renders the prior art unsatisfactory for its intended purpose. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Hijiya *et al.* teach the use of optically active amines to form the secondary amide moiety of the Schiff base amino acids that ultimately undergo racemization. Hijiya *et al.* specifically disclosed (S)- α -methylbenzylamine and (S)- α -ethylbenzylamine as optically active amines for forming the secondary amide moieties on the amino acids in question (Hijiya *et al.*, col. 3, lines 59-61). Purification of the racemized amino acid is a central object of Hijiya *et al.* (*id.*, col. 2, lines 30-33).

One of ordinary skill in the art would generally expect that the reactivity and crystal forming capabilities of a primary amide to differ from those of a secondary amide formed from (S)- α -methylbenzylamine or (S)- α -ethylbenzylamine. Altering the crystallizing characteristics of the alkylbenzylamides taught by Hijiya *et al.* by making them primary amides would effectively rendering the teachings of Hijiya *et al.* unsuitable for their intended purpose. Because the proposed changes to the teachings of Hijiya *et al.* would render those teachings unsuitable for their intended purpose, it is improper for the Examiner to use Hijiya *et al.* to support a *prima facie* case of obviousness.

Conclusion:

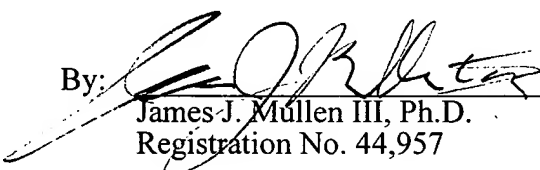
Appellants have addressed the rejection set forth in the Examiner's Answer. For the reasons stated above, it is respectfully submitted that the final rejections of claims 12-22 under 35 U.S.C. §103 is in error and warrant reversal by the Board.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, appellant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 246152014800. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: December 18, 2003

By:


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